SYSY Antibodies

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GFP

Cat.No. 132 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 µl H_2O, then aliquot and store at -20°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 500 up to 1 : 1000 (AP staining) **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 (see remarks) **IHC-P (FFPE)**: not tested yet **EM**: external data (see remarks)
Immunogen	Recombinant protein corresponding to AA 1 to 238 from jellyfish GFP (UniProt Id: P42212)
Specificity	Recognizes GFP, mEGFP, superfolder GFP, most common CFP and YFP variants. This antibody still recognizes its antigen after heat mediated antigen retrieval. It does not cross-react to mCherry, mRFP, dsRed, mTagBFP or their most common derivatives.
Remarks	**IHC**: The unpurified serum tends to stain nuclear structures in WT tissue, that lacks GFP expression. The affinity purified version 132 005 recommended. **EM**: This antibody has been successfully applied and published for this method by customers (see application-specific references).

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Background

Green **f**luorescent **p**rotein **GFP** and its derivates have become universal tools in cell biology. These antibodies allow immunoprecipitation and visualization of GFP fusion proteins on immunoblots and by immunocytochemistry.

Selected References for 132 004

S-SCAM is essential for synapse formation.
Wittenmayer N, Petkova-Tuffy A, Borgmeyer M, Lee C, Becker J, Böning A, Kügler S, Rhee J, Viotti JS, Dresbach T
Frontiers in cellular neuroscience (2023) 17: 1182493. . **WB; tested species: rat**

An immunoaffinity-based method for isolating ultrapure adult astrocytes based on ATP1B2 targeting by the ACSA-2 antibody.
Batiuk MY, de Vin F, Duqué SI, Li C, Saito T, Saido T, Fiers M, Belgard TG, Holt MG
The Journal of biological chemistry (2017) 29221: 8874-8891. . **IHC; tested species: mouse**

Neuronal hyperactivity causes Na+/H+ exchanger-induced extracellular acidification at active synapses.
Chiacchiaretta M, Latifi S, Bramini M, Fadda M, Fassio A, Benfenati F, Cesca F
Journal of cell science (2017) 1308: 1435-1449. . **ICC; tested species: mouse**

Postsynaptic gephyrin clustering controls the development of adult-born granule cells in the olfactory bulb.
Deprez F, Pallotto M, Vogt F, Grabiec M, Virtanen MA, Tyagarajan SK, Panzanelli P, Fritschy JM
The Journal of comparative neurology (2015) 52313: 1998-2016. . **EM**

GluN2B suppression restores phenylalanine-induced neuroplasticity and cognition impairments in a mouse model of phenylketonuria.
Song WS, Kim YS, Bae YS, Yoon SH, Lim JM, Kim MH
The Journal of clinical investigation (2025) 13513: . . **IHC; tested species: mouse**

DKK2 contributes to context discrimination and adult hippocampal neurogenesis by suppressing Wnt/PCP signaling.
Song WS, Lee H, Lim JM, Yoon SH, Kim YS, Kim H, Kim MH
Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology (2025) : . . **IHC; tested species: mouse**

Activity in the dorsal hippocampus-mPFC circuit modulates stress-coping strategies during inescapable stress.
Yoon SH, Song WS, Chung G, Kim SJ, Kim MH
Experimental & molecular medicine (2024) : . . **IHC; tested species: mouse**

Immune response and pathogen invasion at the choroid plexus in the onset of cerebral toxoplasmosis.
Figueiredo CA, Steffen J, Morton L, Arumugam S, Liesenfeld O, Deli MA, Kröger A, Schüler T, Dunay IR
Journal of neuroinflammation (2022) 191: 17. . **IHC; tested species: mouse**

Impaired synaptic transmission in dorsal dentate gyrus increases impulsive alcohol seeking.
Nalberczak-Skóra M, Beroun A, Skonieczna E, Cały A, Ziółkowska M, Pagano R, Taheri P, Kalita K, Salamian A, Radwanska K
Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology (2022) : . . **IHC; tested species: mouse**

The Alzheimer susceptibility gene BIN1 induces isoform-dependent neurotoxicity through early endosome defects.
Lambert E, Saha O, Soares Landeira B, Melo de Farias AR, Hermant X, Carrier A, Pelletier A, Gadaut J, Davoine L, Dupont C, Amouyel P, et al.
Acta neuropathologica communications (2022) 101: 4. . **IHC; tested species: drosophila**

Optogenetic stimulation of striatal patches modifies habit formation and inhibits dopamine release.
Nadel JA, Pawelko SS, Scott JR, McLaughlin R, Fox M, Ghanem M, van der Merwe R, Hollon NG, Ramsson ES, Howard CD
Scientific reports (2021) 111: 19847. . **IHC; tested species: mouse**

Novel 3D analysis using optical tissue clearing documents the evolution of murine rapidly progressive glomerulonephritis.
Puelles VG, Fleck D, Ortz L, Papadouri S, Strieder T, Böhner AMC, van der Wolde JW, Vogt M, Saritas T, Kuppe C, Fuss A, et al.
Kidney international (2019) 962: 505-516. . **IHC; tested species: mouse**

Selected General References

Imaging into the future: visualizing gene expression and protein interactions with fluorescent proteins.
van Roessel P et al. Nat. Cell Biol. (2002) PubMed:11780139

Access the online factsheet including applicable protocols at https://sysy.com/product/132004 or scan the QR-code.

FAQ - How should I store my antibody?

Shipping Conditions

- All SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at **4°C** before reconstitution. **Do not freeze lyophilized antibodies**. Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free ("no-frost") freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at –20°C to –80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C

Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C
  Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C
  Adding a carrier protein (e.g., BSA) enhances long-term stability.
  Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C
  Adding a carrier protein such as BSA improves long-term stability.
  Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at –20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.